

REMARKS

This Amendment responds to the Final Office Action mailed September 11, 2009, in the above-identified application. A Request for Continued Examination (RCE) accompanies this Amendment. Accordingly, entry of the Amendment and allowance of the application are respectfully requested.

Claims 1-37 are pending in the application. Claims 11-20 and 22-36 have been withdrawn from consideration. Accordingly, claims 1-10, 21 and 37 are currently under consideration. By this Amendment, claims 1, 10, 21 and 37 have been amended. The amendments find clear support in the original application at least in FIG. 5A and page 26, line 23 to page 27, line 16. No new matter has been added.

The Examiner has rejected claims 1-5, 8, 10, 21 and 37 under 37 U.S.C. §103(a) as unpatentable over MacAulay (US 6,483,641) in view of Holzbach (US 6,795,241). Claim 6 is rejected under 35 U.S.C. §103(a) as unpatentable over MacAulay in view of Holzbach, further in view of Moranski et al. (US 6,094,289). Claim 7 is rejected under 35 U.S.C. §103(a) as unpatentable over MacAulay in view of Holzbach, further in view of Sun (US 6,415,068). Claim 9 is rejected under 35 U.S.C. §103(a) as unpatentable over MacAulay in view Holzbach, further in view of Hosoi (US 6,400,490). The rejections are respectfully traversed for the following reasons.

MacAulay discloses microscopes that have advantages in controlling the light that contacts a sample and/or that is detected emanating from a sample. The control includes selective control of the angle of illumination, the quantity of light and the location of light reaching the sample and/or a detector. One or more spatial light modulators are placed in the illumination and/or detection light path of the microscope at one or both of the conjugate image plane of the aperture diaphragm of the objective lens and the conjugate image plane of the sample (col. 2, lines 54-64). As shown in FIG. 3A of MacAulay, a digital micromirror device 34 is positioned between a sample 20 and the light detector 26. MacAulay teaches that the change in angle of illumination made possible by such microscopes permits the determination of 3D images of the sample. For example, the sample can be illuminated from a plurality of different angles and then the changes in intensity in the light

impinging on the individual pixels in the detection array can be detected and then combined, compiled and/or reconstructed by a controller to provide a 3D image of the sample (col. 2, lines 40-47). MacAulay describes the making of a 3D image at col. 23, lines 53-67 and describes time delayed fluorescence microscopy at col. 24, lines 18-38.

MacAulay describes the spatial light modulator with reference to FIG. 2A. Individual micromirrors of a digital micromirror device are tilted “on” toward an image plane 40 or are tilted “off” toward a beam stop 36 (col. 16, lines 36-55). As shown in FIG. 2C, the time on and the time off of each digital micromirror can be controlled between 100% on and 100% off to effect light modulation (col. 16, line 62 to col. 17, line 9).

Holzbach describes a system and method to form a large scale full parallax three-dimensional electronic display (Abstract). The 3D electronic display includes a plurality of lenslet pixel modules and a plurality of two-dimensional moving image sources (col. 2, lines 5-8 and col. 12, lines 43-56).

MacAulay does not disclose or suggest a three-dimensional image pickup apparatus including a plurality of light path selection elements for selecting different incoming angles of light to come to said light receiving elements at different times, *each light path selection element of said plurality of light path selection elements configured to select different incoming angles of light to come to said light receiving elements at different times to record different images at the different incoming angles of light*, as required by amended claim 1. Instead, MacAulay teaches a microscope wherein changes in angle of illumination are achieved by controlling the percentage of time on and time off of digital micromirrors. Nowhere does MacAulay disclose or suggest a plurality of light path selection elements wherein each light path selection element of said plurality of light path selection elements is configured to select different incoming angles of light to come to said light receiving elements at different times to record different images at the different incoming angles of light, as required by amended claim 1. MacAulay contains no disclosure that each digital micromirror of the digital micromirror device 34 can select different incoming angles of light, as claimed. To the contrary, MacAulay teaches that changes in angle of illumination are achieved by

controlling the on-off states of digital micromirrors of the digital micromirror device 34. This is very different from each light path selection element selecting different angles as claimed.

Holzbach does not provide the teachings that are lacking in MacAulay. For at least these reasons, amended claim 1 is clearly and patentably distinguished over MacAulay in view of the Holzbach, and withdrawal of the rejection is respectfully requested.

Claims 2-9 depend from claim 1 and are patentable over the cited references for at least the same reasons as claim 1.

Amended claim 10 is directed to a three-dimensional image pickup apparatus comprising, in part, incoming angle acquisition means for acquiring corresponding incoming angle information of the received light at different incoming angles and at different times, said incoming angle acquisition means comprising a plurality of light path selection elements, each light path selection element of said plurality of light path selection elements configured to select different incoming angles of light to come to said light intensity acquisition means at different times.

As should be apparent from the above discussion, the combination of MacAulay and Holzbach contains no disclosure of a three-dimensional image pickup apparatus including a plurality of light path selection elements wherein each light path selection element is configured to select different incoming angles of light, as required by amended claim 10. For at least these reasons and the reasons discussed above, amended claim 10 is clearly and patentably distinguished over MacAulay in view of Holzbach, and withdrawal of the rejection is respectfully requested.

Amended claim 37 is directed to an information recording method and contains method limitations that correspond to the apparatus limitations of claim 10. As should be apparent from the above discussion, amended claim 37 is clearly and patentably distinguished over MacAulay in view of Holzbach, and withdrawal of the rejection is respectfully requested.

Amended claim 21 is directed to a three-dimensional image pickup and display apparatus comprising a light reception section and a light emission section. The light reception section includes a plurality of light receiving elements and a plurality of first light path selection elements

for selecting different incoming angles of light to come to said light receiving elements at different times, each first light path selection element of said plurality of first light path selection elements configured to select different incoming angles of light to come to said light receiving elements at different times. The light emission section includes a plurality of light emitting elements and a plurality of second light path selection elements for selecting corresponding different outgoing angles of light to be emitted from said light emitting elements at different times, each second light path selection element of said plurality of second light path selection elements configured to select different outgoing angles of light to be emitted from said light emitting elements at different times.

As should be apparent from the above discussion, the combination of MacAulay and Holzbach does not disclose or suggest a plurality of first light path selection elements wherein each of the first light path selection elements is configured to select different incoming angles of light and does not disclose or suggest a second plurality of light path selection elements wherein each of the second light path selection elements is configured to select different outgoing angles of light. For at least these reasons and the reasons discussed above, amended claim 21 is clearly and patentably distinguished over Holzbach in view MacAulay, and withdrawal of the rejection is respectfully requested.

Based upon the above discussion, claims 1-10, 21 and 37 are in condition for allowance.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance. The Examiner is requested to call the undersigned at the telephone number listed below if this communication does not place the case in condition for allowance.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicant hereby requests any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, the Director is hereby authorized to charge any deficiency or credit any overpayment in the fees filed, asserted to be filed or which should have been filed herewith to our Deposit Account No. 23/2825, under Docket No. S1459.70077US00 from which the undersigned is authorized to draw.

Dated: November 17, 2009

Respectfully submitted,

By William R. McClellan

William R. McClellan

Registration No.: 29,409

WOLF, GREENFIELD & SACKS, P.C.

Federal Reserve Plaza

600 Atlantic Avenue

Boston, Massachusetts 02210-2206

617.646.8000

X12/11/2009x